National Aeronautics and Space Administration

Educational Product	
Educators & Students	Grades 5-12

ET-2002-09-118-ARC

Educational Topic

Meteorologist

Related Job Titles:

Weather Officer, Weather Forecaster, Meteorology Researcher, Meteorological Modeling Specialist, Atmospheric Scientist, Atmospheric Chemist

Job Description:

A Meteorologist collects weather data, surveys weather indicators and makes predictions regarding developing weather patterns. This individual advises air traffic control and other agencies about weather hazards such as thunderstorms, developing storm cells and fronts, turbulence, tornadoes, icing, flooding, flash flooding and other such weather-related phenomena. They issue to various governmental agencies and the public weather advisories for vehicles, aircraft and watercraft. They use sophisticated computer software programs that assist them in modeling the potential flow and intensity of storm cells and fronts. They are also available to participate in weather-related research projects that seek to provide more accurate forecasting methods over a longer time period.

Interests / Abilities:

- Do you read and understand charts with special symbols easily?
- Can you perform calculations quickly with great accuracy?
- Do enjoy getting out a road map and figuring out what route to drive when preparing for vacation? Can you see more than one route to a destination?
- Are you curious about your surroundings and what processes shape them?
- Are you patient when it comes to completing forms requiring detailed information?

Suggested School Subjects / Courses:

- Math (algebra, trigonometry, calculus)
- Physics
- Meteorology
- Statistics
- Computer modeling
- Geography

Education / Training Needed:

The minimum education required for this position is a bachelor's degree in meteorology or atmospheric sciences from an accredited college or university. Experience in computer modeling techniques is extremely helpful for this job. To do research, at minimum a master's degree is required and a Ph.D. is highly desired for this position.

Areas of expertise:

- *Aeronautical*: study weather phenomena and its effects on flight (lightning, icing, etc.)
- *Synoptic*: analyze data from satellites, radar, and surface-observing instruments
- *Weather forecasters*: prepare forecasts for public and specialized reports for aviation, marine and agriculture
- *Research*: study atmospheric physics, refine theories and improve mathematical/computer models of atmospheric processes and events
- *Climatologists*: collect, organize, archive, interpret and publish climatological data.

Additional Resources:

- National Oceanic and Atmospheric Administration
  http://www.noaa.gov
- National Severe Storms Laboratory
  http://www.nssl.noaa.gov
- National Weather Service
  http://www.nws.noaa.gov
- Schools with programs in meteorology
  http://www.nssl.noaa.gov/edu/schools.html
- American Meteorological Society
  45 Beacon St., Boston, MA 02108
  http://www.ametsoc.org/AMS
- Student Educational Employment Programs
  http://nasajobs.nasa.gov/stud_opps/employment/index.htm
- NASA Jobs
  http://nasajobs.nasa.gov/
- NASA Summer High School Apprenticeship Research Program (SHARP)
  http://www.mtsibase.com/sharp/

What can I do right now?

- Set up your own weather station and provide your local radio station with a daily report.
- Get some work experience at the local airport, television or radio station as a weather data compiler or weather statistics researcher.
- Interview pilots about how different weather phenomena affect their aircraft's flight characteristics.
- Call the Automatic Terminal Information Service (ATIS) phone number and listen to the local airport's weather report.
- Learn to read and interpret the various types of weather maps, charts and data available through the Internet.
- Learn how to use database software.

Please take a moment to evaluate this product at:
http://ehb2.gsfc.nasa.gov/edcats/educational_topic

Your evaluation and suggestions are vital to continually improving NASA educational materials.
Thank you.